WHAT IS CLAIMED IS:

1. An absorbing rod having a nearly the same shape as the shape of a columnar control rod for PWR used in reactivity control of core in a reactor, and having a neutron shielding capability.

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- 2. The absorbing rod according to claim 1, further comprising a fixing member for fixing said absorbing rod at a position corresponding to a control rod guide pipe of spent fuel assemblies for PWR or a sectional position of the control rod guide pipe including a measuring pipe.
- 3. The absorbing rod according to claim 1, wherein said absorbing rod is composed of aluminum composite material or aluminum alloy formed by adding powder of boron or boron compound having a neutron absorbing performance to aluminum or aluminum alloy powder.
- An absorbing rod which is to be inserted into a control
 rod guide pipe of spent fuel assemblies or a measuring pipe,
 wherein

said absorbing rod is composed of aluminum composite material or aluminum alloy formed by adding powder of boron or boron compound having a neutron absorbing performance to aluminum or aluminum alloy powder, and

said absorbing rod is used, when transporting the spent fuel assemblies by storing into a cask, by inserting said absorbing rod into said control rod guide pipe or said measuring pipe

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A cask comprising:

an absorbing rod group, to be inserted into a control rod guide pipe or a measuring pipe of spent fuel assemblies for PWR, having a nearly same shape as the shape of a columnar control rod for PWR used in reactivity control of core in a reactor, and having a neutron shielding capability; persuized water reactors

spent fuel assemblies for PWR having a control rod guide pipe in which said absorbing rod group is inserted or a control rod guide pipe group including a measuring pipe;

a basket forming a lattice cell for accommodating the spent fuel assemblies for PWR in which said absorbing rod group is inserted;

a shell main body accommodated in said basket, and having a neutron shield on the outer circumference, for shielding gamma-rays; and

main body for putting the spent fuel assemblies for PWR in which said absorbing rod group is inserted, in and out of said lattice cell.

- 6. The cask according to claim 5, wherein said absorbing rod is a control rod for PWR.
- 7. The cask according to claim 5, wherein the equivalent thickness corresponding to the neutron absorbing capability or neutron moderating capability of the plates or square pipes for composing the basket for holding the spent fuel assemblies for PWR in the cask, of the portion corresponding to the sectional area of the absorbing rod inserted in the spent fuel assemblies for PWR, is reduced for the portion of the equivalent sectional area corresponding to the neutron absorbing capability or neutron moderating capability of the absorbing rod inserted in the spent fuel assemblies for PWR.

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- 8. The cask according to claim 5, wherein said absorbing rod is composed of aluminum composite material or an aluminum alloy formed by adding powder of boron or born compound having a neutron absorbing performance to aluminum or aluminum alloy powder.
- 9. An inserting apparatus comprising:

an absorbing har element having a nearly same shape as the shape of a columnar control rod for PWR used in reactivity control of core, at a position corresponding to

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a control rod guide pipe of spent fuel assemblies for PWR or a sectional position of the control rod guide pipe including a measuring pipe, capable of inserting the fixing member into an upper nozzle through the upper nozzle opening of the spent fuel assemblies for PWR, by fixing the absorbing rod group having a neutron shielding capability by means of the fixing member;

a guide member which can be inserted into the upper nozzle through the upper nozzle opening of the spent fuel assemblies for PWR, having a through-hole for inserting said absorbing rod group into the control rod guide pipe or a position corresponding to the sectional position of the control rod guide pipe including the measuring pipe, so as to be suspended on said fixing member in a state of the leading end of the absorbing rod group being inserted into the through-hole when standing still;

a suspender detachably suspending the fixing member of said absorbing rod block and moving the absorbing rod block vertically when mounting, and

a position detection unit provided in said guide member which detects the relative configuration of the location of the through-hole group provided in the guide member and the location of the corresponding control rod guide pipe group of the spent fuel assemblies for PWR,

wherein the relative positions of the through-hole

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group and control rod guide pipe group are adjusted on the basis of the result of detection by said position detection unit, and the absorbing rod group is lowered to insert the absorbing rod group into the control rod guide pipe or the control rod guide pipe including the measuring pipe.

- 10. The inserting apparatus according to claim 9, further comprising a distance detection unit which detects whether the distance between the suspender and the fixing member is within a specific range or not.
- 11. A conveying and storing method of spent fuel assemblies comprising:
- a step of inserting an absorbing rod group having a nearly same shape as the shape of a columnar control rod for PWR used in reactivity control of core in a reactor, and having a neutron shielding capability, into a control rod guide pipe group including a measuring pipe of spent fuel assemblies for PWR; and
- a step of conveying and storing the spent fuel assemblies for PWR in a state in which said absorbing rod group is inserted.

12. The conveying and storing method of spent fuel assemblies according to clarm 11, wherein said absorbing rod is a control rod for PWR.

ADD 39